

Stated Meeting, December 2, 1904.

President SMITH in the Chair.

The list of donations to the Library was laid on the table, and thanks were ordered for them.

The death was announced of Dr. Helen Abbott Michael, at Boston, on November 29, 1904.

The following papers were read:

“Mineral Symmetry,” by Prof. Amos P. Brown.

“The Origin of the Markings of Organisms due to the Physical rather than to the Biological Environment,” by Prof. Alpheus S. Packard.

THE ORIGIN OF THE MARKINGS OF ORGANISMS (PŒ-
CILOGENESIS) DUE TO THE PHYSICAL RATHER
THAN TO THE BIOLOGICAL ENVIRONMENT; WITH
CRITICISMS OF THE BATES-MÜLLER HYPOTHESES.

BY ALPHEUS S. PACKARD, LL.D.

Read December 2, 1904.

CONTENTS.

1. Introduction.
2. Facts against the Bates-Müller hypotheses, from observations made in North America.
3. The case of the milkweed butterfly (*Anosia plexippus*).
4. Facts in favor of the Bates-Müller hypotheses, observed in India.
5. Adverse evidence, from observations made in Europe and Asia.
6. Cases observed in Natal, South Africa.
7. The Batesian and the Müllerian hypotheses.
8. Criticisms of the Bates-Müller hypotheses.
9. Protective mimicry not necessarily applied to snakes.
10. Müllerian mimicry not applicable in certain cases even in butterflies.
11. Indifference shown to butterflies by birds.